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EXAMINER	
MORRISON, THOMAS A	

ART UNIT	PAPER NUMBER
3653	

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/670,333	ASADA, TETSUO	
	Examiner	Art Unit	
	Thomas A. Morrison	3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/26/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 16A, 16B, 17A, 17B and 17C should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Regarding claims 1 and 13 and their dependent claims 2-12 and 14-25, it is unclear if the elements in the preamble are specifically claimed or not. For example, in claim 1 it is unclear if the paper feed roller is claimed or not claimed. Similarly, it is unclear if the feed roller is claimed in claim 13.

Claims 6, 8, 9 and 18 all recite the limitation "the arm portion" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the conveying direction" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claims 10, 11 and 21 each recite the limitation "the each arm portion" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 17 recites the limitation "the projection" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 19, there is insufficient structure recited in the claim to understand how the plates are related to the arm portions and the projections.

Claim 20 recites the limitation "the single arm portion" in line 2. There is insufficient antecedent basis for this limitation in the claim.

These above indefiniteness rejections are merely exemplary. Applicant should review the claims and make the language consistent throughout the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 5-6, 9, 11, 13,17, 21 and 23, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,895,040 (Oleska et

al.). In particular, Oleska et al. discloses all of the limitations of claims 1, 3, 5-6, 9, 11, 13,17, 21 and 23.

Regarding claim 1, Figs. 1-12 show a paper feed apparatus (10) provided with a paper storage (15) capable of storing a plurality of sheets of paper (12), a paper feed mechanism (including 18) having a paper feed roller (18) for separating the paper stored in the paper storage (15) sheet by sheet and capable of feeding the separated paper to a given convey path, and an inclined surface (Fig. 12) provided in the given convey path such that the inclined surface makes an obtuse angle relative to the paper (12) stored in the paper storage (15), the paper feed apparatus including

a plurality of projections (36 in Fig. 12) capable of engaging with ends of the plurality of sheets of paper (e.g., as shown in Fig. 5) and of projecting from the inclined surface (Fig. 12); and

a plurality of resilient arm portions (i.e., each one of the entire U-shaped members labeled 37 in Fig. 12) for holding the respective projections (36) at respective positions so as to project from the surface of the inclined surface (Fig. 12).

Regarding claim 3, column 2, lines 39-50 disclose that the projections are formed of a material having a high abrasion resistance.

Regarding claim 5, Figs. 4 and 12 show that the projections (36) are formed integrally with the arm portions (37).

Regarding claim 6, Figs. 4 and 12 show that the arm portion (37) has a bent configuration.

Regarding claim 9, Figs. 4, 5 and 12 show that the arm portion (37) is held at the both ends thereof.

Regarding claim 11, Figs. 4 and 12 show that each arm portion (37) holds the each projection (36) independently.

Regarding claim 13, Figs. 1-12 show a paper separation mechanism (10) for use in a paper feed apparatus provided with a paper feed roller (18) for separating a plurality of stacked sheets of paper (12) and feeding the paper sheet by sheet, the paper separation mechanism including

a paper separation unit (Fig. 120 with

a plurality of projections (36 in Fig. 12) capable of engaging with ends of the plurality of stacked sheets of paper (see e.g., Fig. 4) in the paper feed direction (39);

a plurality of resilient arm portions (37 in Fig. 12) for holding the respective projections (36 in Fig. 120 at respective positions so as to engage with the ends of the paper; and

a base portion for holding the resilient arm portions.

Regarding claim 17, Figs. 4 and 12 show that the projection (36) is held at the center of the arm portion (37), and wherein the arm portion (37) is held at the both ends thereof by the base portion.

Regarding claim 21, Fig. 12 shows that each arm portion (37) independently holds the each projection (36).

Regarding claim 23, Figs. 1-12 show a paper feed apparatus (including 18) with

a paper storage (15) capable of storing a plurality of sheets of paper (12);

a paper feed mechanism (including 18) having a paper feed roller (18) for separating the paper (12) stored in the paper storage (15) sheet by sheet and capable of feeding the separated paper to a given convey path; and

an inclined surface (Figs. 2, 4 and 12) provided in the given convey path such that the inclined surface makes an obtuse angle relative to the paper (12) stored in the paper storage (15). The limitations of the paper separation mechanism according to claim 13 are explained above in the rejection of claim 13. Such separation mechanism is provided on the inclined surface as claimed.

4. Claims 1-2, 5, 8, 11-12, 13, 18 and 22-24, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,573,338 (Morikawa et al.). In particular, Morikawa et al. discloses all of the limitations of claims 1-2, 5, 8, 11-12, 13, 18 and 22-24.

Regarding claim 1, Figs. 1-23 show a paper feed apparatus (10) provided with a paper storage (16) capable of storing a plurality of sheets of paper, a paper feed mechanism (including 20) having a paper feed roller (20) for separating the paper stored in the paper storage (16) sheet by sheet and capable of feeding the separated paper to a given convey path, and an inclined surface (Fig. 11) provided in the given convey path such that the inclined surface makes an obtuse angle relative to the paper stored in the paper storage (16), the paper feed apparatus including

a plurality of projections (near 58) capable of engaging with ends of the plurality of sheets of paper and of projecting from the inclined surface; and

a plurality of resilient arm portions (58) for holding the respective projections at respective positions so as to project from the surface of the inclined surface.

Regarding claim 2, the Abstract discloses that the arm portions (e.g., 58) are formed of metal.

Regarding claim 5, the projections (e.g., near 58) are formed integrally with the arm portions (58).

Regarding claim 8, the arm portion (e.g., 58) is held in a cantilever manner.

Regarding claim 11, each arm portion (e.g., 58) holds the each projection (near 58) independently.

Regarding claim 12, the paper storage (16) holds a plurality of sheets of paper in an inclined state relative to the horizontal plane.

Regarding claim 13, Figs. 1-23 show a paper separation mechanism for use in a paper feed apparatus provided with a paper feed roller (20) for separating a plurality of stacked sheets of paper and feeding the paper sheet by sheet, the paper separation mechanism including

a paper separation unit (including 22) with

a plurality of projections (near 58) capable of engaging with ends of the plurality of stacked sheets of paper in the paper feed direction;

a plurality of resilient arm portions (58) for holding the respective projections (near 58) at respective positions so as to engage with the ends of the paper; and

a base portion (76) for holding the resilient arm portions (58).

Regarding claim 18, the arm portion (58) is held in a cantilever manner by the base portion (76).

Regarding claim 22, the paper separation unit is made of metal.

Regarding claim 23, Figs. 1-23 show a paper feed apparatus with a paper storage (16) capable of storing a plurality of sheets of paper;

a paper feed mechanism (including 20) having a paper feed roller (20) for separating the paper stored in the paper storage (16) sheet by sheet and capable of feeding the separated paper to a given convey path; and

an inclined surface (Fig. 6) provided in the given convey path such that the inclined surface makes an obtuse angle relative to the paper stored in the paper storage (16). The limitations of the paper separation mechanism according to claim 13 are explained above in the rejection of claim 13 in view of Morikawa et al. Such separation mechanism is provided on the inclined surface as claimed.

Regarding claim 24, the paper storage (16) holds the plurality of sheets of paper in an inclined state relative to the horizontal plane.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 20, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Oleksa et al. as applied to claim 13 above, and further in view of

Japanese Publication No. 5-24694. Oleksa et al. discloses all of the limitations of claim 20, except for the single arm holding a plurality of projections.

Japanese Publication No. 5-24694 shows that it is well known to provide a separator arm (4a) with a plurality of projections, in order to prevent noise. It would have been obvious to one of ordinary skill in the art at the time of the invention, to provide the arm (37) of Oleksa et al. with a plurality of projections in order to prevent noise during separation, as taught by Japanese Publication No. 5-24694.

6. Claims 1, 3-7, 9-10, 13-16, 23 and 25, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Oleska et al. in view of U.S. Patent No. 6,536,757 (Chang). In particular, Oleska et al. in view of Chang meets all of the limitations of claims 1, 3-7, 9-10, 13-16, 23 and 25.

Regarding claim 1, Figs. 1-12 of Oleska et al. show a paper feed apparatus (10) provided with a paper storage (15) capable of storing a plurality of sheets of paper (12), a paper feed mechanism (including 18) having a paper feed roller (18) for separating the paper stored in the paper storage (15) sheet by sheet and capable of feeding the separated paper to a given convey path, and an inclined surface (Fig. 4) provided in the given convey path such that the inclined surface makes an obtuse angle relative to the paper (12) stored in the paper storage (15). Fig. 4 can be interpreted as showing a plurality of resilient arm portions (i.e., each leg portion is one half of the U-shaped portion connected to protrusion 36 in Fig. 4). With this interpretation, there are two arm portions 37 and 37 supporting a projection (36).

Figs. 1-4 of the Chang patent shows that it is well known to provide a paper feed apparatus (110) with a separator having a plurality of projections (153) on arm portions (152). More specifically, Chang discloses that such a separator enhances the reliability in a pickup operation of sheets one by one and that the sheets are prevented from being picked up simultaneously. See column 4, lines 64-67. It would have been obvious to one of ordinary skill in the art at the time of the invention, to provide the Oleksa et al. apparatus with a plurality of projections on the resilient arm portions 37, in order to enhance the reliability in the pickup operation of sheets one by one and to better prevent the picked up of sheets simultaneously, as taught by Chang.

Regarding claim 3, column 2, lines 39-50 of Oleksa et al. disclose that the projections are formed of a material having a high abrasion resistance.

Regarding claim 4, providing the projections as taught by Chang in the environment of the Oleksa et al. apparatus will result in such projections being arranged along the conveying direction of the paper.

Regarding claim 5, both Oleksa et al. and Chang show that the projections are formed integrally with the arm portions.

Regarding claim 6, both Oleksa et al. and Chang show that the arm portion has a bent configuration.

Regarding claim 7, Figs. 4-6 of Oleksa et al. show that the inclined surface is provided with an elongated hole (near 34) formed along the conveying direction of the paper. Also, providing the projections of Chang in the environment of Oleksa et al. will

result in the plurality of projections projecting from the inclined surface through the hole. See, e.g., Fig. 4 of Oleksa et al.

Regarding claim 9, Figs. 4, 5 and 12 show that each arm portion (37) is held at the both ends thereof. In particular, each arm 37 is held near 34 and held by element 17.

Regarding claim 10, providing the projections of Chang in the environment of Oleksa et al. will result in each arm portion 37 of Oleksa et al. holding a plurality of projections.

Regarding claim 13, Figs. 1-12 of Oleksa et al. show a paper separation mechanism (10) for use in a paper feed apparatus provided with a paper feed roller (18) for separating a plurality of stacked sheets of paper (12) and feeding the paper sheet by sheet, the paper separation mechanism including

a plurality of resilient arm portions (37 in Fig. 4) for holding a projection (36) at a respective position so as to engage with the ends of the paper; and

a base portion (38) for holding the resilient arm portions. As mentioned above with regard to claim 1, it would have been obvious to one of ordinary skill in the art at the time of the invention, to provide the Oleksa et al. apparatus with a plurality of projections on the resilient arm portions 37, in order to enhance the reliability in the pickup operation of sheets one by one and to better prevent the picked up of sheets simultaneously, as taught by Chang.

Regarding claim 14, Fig. 4 of Oleksa et al. shows a holder unit (including 30) having an elongated hole (near 34) formed along the paper feed direction of the paper.

Also, providing the projections of Chang in the environment of Oleksa et al. will result in the plurality of projections projecting upward a predetermined length through the elongated hole (near 34) of the holder unit. See Fig. 4 of Oleksa et al.

Regarding claim 15, column 4, lines 45-55 disclose at least the surface of the holder unit (including 3) has a low coefficient of friction, but does not appear to compare such coefficient to the coefficient of paper. In any event, it is an obvious matter of design choice within the skill of one of ordinary skill in the art to select such a material.

Regarding claim 16, Fig. 4 of Oleksa et al. shows a separation unit retainer (17) for retaining the base portion (38) from thereunder and sandwiching the base portion (38) between the separation unit retainer (17) and the holder unit (30).

Regarding claim 23, Figs. 1-12 of Oleksa et al. show a paper feed apparatus (including 18) with a paper storage (15) capable of storing a plurality of sheets of paper (12);

a paper feed mechanism (including 18) having a paper feed roller (18) for separating the paper (12) stored in the paper storage (15) sheet by sheet and capable of feeding the separated paper to a given convey path; and

an inclined surface (Figs. 2, 4 and 12) provided in the given convey path such that the inclined surface makes an obtuse angle relative to the paper (12) stored in the paper storage (15). The limitations of the paper separation mechanism according to claim 13 are explained above in the rejection of claim 13 in view of Oleksa et al and Chang. Such separation mechanism is provided on the inclined surface as claimed.

Regarding claim 25, Fig. 12 of Oleksa et al. shows that tow or more paper separation mechanisms can be provided on the inclined surface.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is 703-305-0554. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Walsh can be reached on 703-306-4173. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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